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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,126	10/19/2001	Paul Remijan	301499.3000-100	2027

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EXAMINER

PEFFLEY, MICHAEL F

ART UNIT	PAPER NUMBER
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3739

DATE MAILED: 09/29/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/042,126

Applicant(s)

REMIJAN ET AL.

Examiner

Michael Peffley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 5, 6, 12 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 is unclear, in particular with the structural cooperation of the optical fibers (i.e. it is not clear they are part of the fiber optic waveguide).

Claim 5 has awkward wording with the phrase "the fiber optic waveguide is plurality". It is suggested this be amended to recite "the fiber optic waveguide comprises a plurality".

Claim 12 lacks sufficient structure or means to support the function of transmitting light to the distal end of the endoscope. It is not clear how the sheath may perform such a function in view of the lack of structure/means to do so. It is noted that claim 17 (which depends from claim 12) provides the necessary structure to perform the function.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tashiro ('295) in view of the teaching of Cho ('461).

Tashiro provides an endoscope which includes a fiber optic waveguide (5) which comprises a plurality of optical fibers. There is also a lens assembly (4) provided at the distal end, the lens assembly including an aperture stop and first and second lenses. An imaging device (not shown) is coupled to the proximal end, and a sheath (1) surrounds the waveguide (5) and provides channels for illuminating fibers and instruments (i.e. forceps) as shown in Figure 4. The arrangement of the fibers has different embodiments, including an annular arrangement of illuminating fibers (6) surrounding the waveguide (5) as shown in Figures 1-2. In as much as the lens arrangement at the distal end is identical to applicant's claimed/disclosed arrangement, it is inherent that the light would enter the optical waveguides as set forth in claim 3. The Tashiro endoscope is disclosed as being very small for insertion into a blood vessel (col. 2, lines 45+ and col. 3, lines 60-63). However, Tashiro fails to disclose the specific dimensions for the endoscope and the waveguide. The examiner maintains that it would be an obvious consideration for one of ordinary skill in the art to construct such an endoscopic device of any reasonable diameter as is known in the art.

To that end, Cho discloses an analogous endoscope device which includes a waveguide channel and a channel for illuminating fibers, as well as channels for a laser fiber, tools, aspiration, etc. In particular, Cho teaches that the entire diameter of the device is preferably 3 mm or less (col. 3, lines 37-38).

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To have provided the Tashiro endoscope with a small diameter of less than 4 mm for the treatment of tissue would have been an obvious design consideration for one of ordinary skill in the art, particularly since the Tashiro device is intended for use in small lumens (i.e. blood vessels) and further since Cho teaches that endoscopes of this size are generally known in the art.

Claims 4, 5 and 9-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tashiro ('295) and Cho ('461), and further in view of the teaching of Forkner et al ('592).

The combination of the Tashiro and Cho references has been previously addressed. Tashiro fails to show the proximal end of the endoscopic device and therefore does not explicitly show a lens coupled to the proximal end of the fiber optic waveguide (as is generally known in the art). Cho also neglects to show the particular of the connection of the imaging means with the optical waveguide.

Forkner et al disclose an analogous endoscope device which includes a fiber optic waveguide for viewing tissue. Forkner et al show the distal lenses for providing the images to the fibers of the optical waveguide, and also show the proximal lens assembly (Figure 7) for coupling an imaging device (i.e. eyepiece) to the optical waveguide.

To have provided the Tashiro device, as modified by the teaching of Cho, with a proximal lens for coupling an imaging device to the optical waveguide for viewing tissue

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would have been an obvious modification for one of ordinary skill in the art in view of the teaching of Forkner et al.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tashiro, Cho and Forkner et al as applied to the claims above, and further in view of the teaching of Uram ('740).

The combination of the Tashiro, Cho and Forkner et al references has been addressed previously. While all three reference disclose the use of an optical waveguide comprising a plurality of optical fibers, none of the references teach the specific number of optical fibers.

Uram discloses another endoscope device and specifically teach that the optical waveguide may be comprised of 3000 optical fibers. The total diameter of the device is 950 micrometers (col. 3, lines 25-30).

To have provided the Tashiro device, as modified by the teachings of Cho and Forkner et al, with a large number of optical fibers in the optical waveguide to improve the clarity of the image would have been an obvious consideration for one of ordinary skill in the art in view of the teaching of Uram.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tashiro, Cho, Forkner et al and Uram as applied to the claim 6 above, and further in view of the teaching of Hibbard ('278).

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None of the Tashiro, Cho, Forkner et al or Uram references specifically disclose the use of an achromatic lens used at the proximal end of the endoscope device.

Hibbard discloses another endoscope device which includes a fiber optic waveguide comprised of a plurality of optical fibers. There is a lens arrangement at the distal end of the optical waveguide for collecting the image, and Hibbard specifically teach that the lens may be an achromatic lens (col. 4, lines 30-35).

To have provided the Tashiro device, as modified by the teachings of Cho, Forkner et al and Uram, with achromatic lenses to improve the image received on the optical waveguide would have been an obvious modification for one of ordinary skill in the art in view of the teaching of Hibbard.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tashiro ('295), Cho ('461) and Forkner ('592), and further in view of the teaching of Nudelman ('685).

The Tashiro, Cho and Forkner et al references fail to teach a video image processor. The examiner maintains that it is generally known in the art to provide either an eyepiece or a video processor, or both, for the viewing of tissue in an endoscopic procedure.

Nudelman discloses another analogous endoscope device with an optical waveguide including a plurality of optical fibers. In particular, Nudelman disclose a camera or image processor (12) coupled to the proximal end of the optical waveguide for processing the image data.

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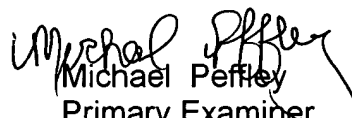
To have provided the Tashiro device, as modified by the teachings of Cho and Forkner et al, with an image processor coupled to the proximal end of the optical waveguide for processing the image data would have been an obvious modification for one of ordinary skill in the art in view of the teaching of Nudelman.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Peffley whose telephone number is (703) 308-4305. The examiner can normally be reached on Mon-Fri from 6am-3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (703) 308-0994. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.


Michael Peffley
Primary Examiner
Art Unit 3739

mp
September 22, 2003